

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently amended). A nursery irrigating system comprising:

- (a) a remotely placed water storage tank connected to at least one plant tray with an overhead pipe system;
- (b) the overhead pipe system having a main delivery pipe connected to the at least one plant tray in order to deliver to at least one root ball of at least one plant in the at least one plant tray without direct water contact with any leaf of the at least one plant and remove water from the at least one plant tray;
- (c) the nursery irrigating system being easily disassembled and reconfigured; ~~and reconfigured;~~
- (d) a controller allowing for unattended system operation;
- (e) the remotely placed water storage tank having the delivery pipe connected to a centrifugal pump; and
- (f) the centrifugal pump providing force to move water into the overhead pipe system.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 2 (Cancelled).

Claim 3 (Cancelled).

Claim 4 (Currently amended). The nursery irrigation system of ~~claim 3~~ Claim 1 further comprising:

(a) a venturi vacuum pump to remove water also connected to the main delivery pipe;

(b) the overhead pipe system having an ascending pipe connected between the main delivery pipe and the venturi vacuum pump;

(c) the ascending pipe being connected between the main delivery pipe and the centrifugal pump;

(d) the main delivery pipe being connected to a tray delivery assembly;

(e) the tray delivery system feeding a supply of water to the at least one plant tray at the root ball of the at least one plant contained in the at least one plant tray from below the at least one plant tray; and

(f) the tray delivery system removing the supply of water from the at least one plant tray.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 5 (Currently amended). The nursery irrigation system of Claim 4 further comprising a check valve mounted on the ~~main delivery~~ ascending pipe to prevent water from backflowing from the ~~delivery pipes~~ overhead pipe system into the storage tank.

Claim 6 (Currently amended). The nursery irrigation system of Claim 5 further comprising at least one tee line ~~tee lines~~ in the main delivery pipe that feed water to the tray delivery assembly ~~for delivery in order to furnish water~~ to each of the at least one plant in a plant tray.

Claim 7 (Currently amended). The nursery irrigation system of Claim 6 further comprising a solenoid valve for the controller in the tray delivery assembly which can be remotely controlled ~~to initiate and in order to initiate or~~ terminate the supply of water to the plant tray.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 8 (Currently amended). The nursery irrigation system of Claim 7 further comprising:

(a) a solenoid the solenoid valve in the connecting to the tray delivery assembly;

(b) the controller including the solenoid valve attached to a timer in order to allow for timed operation of the initiation and termination of the supply of water to the plant tray; and

(c) the controller providing timed control of the flow to and removal of water from the plant table.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 9 (Currently amended). The nursery irrigation system of Claim 8 further comprising:

(a) ~~the use of a Venturi Vacuum to remove~~ venturi vacuum pump removing water from the plant tray ~~through the tray drain assembly and the main drain assembly and into the storage tank;~~

(b) the tray delivery assembly including a tray drain assembly connected to a main drain assembly and into the storage tank;

(c) the main drain assembly being connected to the main delivery pipe; and

(d) the venturi vacuum pump sending water through the tray drain assembly into the main drain assembly on a return to the storage tank.

Claim 10 (Currently amended). The nursery irrigation system of Claim 9 further comprising a vacuum shut off valve acting ~~under pressure from~~ cooperating with the centrifugal pump to allow water to flow on to the plant tray at the root ball and ~~acting under vacuum from~~ cooperating with the venturi vacuum pump ~~allows to allow water to~~ flow from the plant tray.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 11 (Currently amended). The nursery irrigation system of Claim 10 further comprising a check valve on the ~~tray~~ drain delivery pipe ~~preventing in order to prevent~~ backflow of water ~~from the main drain pipe~~ into the tray drain assembly.

Claim 12 (Currently amended). The nursery irrigation system of Claim 11 further comprising an input line ~~from~~ connecting the ~~main drain line~~ delivery pipe into the water storage tank.

Claim 13 (canceled).

Claim 14 (Currently amended). The nursery irrigation system of ~~Claim 13~~ Claim 12 further comprising the controller having up to 60 timers each of the up to 60 timers being connected ~~hooked to a separate member in a group of the solenoid valve~~ ~~solenoid valves~~ to have timed control of the flow and removal of water from the plant table.

Claim 15 (Currently amended). The nursery irrigation system of Claim 14 further comprising ~~a tray~~ the tray drain assembly that ~~can be~~ being easily disconnected from the main drain

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

assembly and readily disassembled and reassembled.

Claim 16 (Currently amended). The nursery irrigation system of Claim 15 further comprising ~~a tray~~ the tray delivery assembly ~~that can be being~~ easily disconnected from the main delivery assembly and easily disassembled and reassembled.

Claim 17 (Currently amended). The nursery irrigation system of Claim 16 further comprising a main delivery assembly ~~that can be being~~ easily disassembled and reassembled.

Claim 18 (canceled).

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 19 (withdrawn). A method for providing irrigation to at least one nursery of nursery plants comprising:

- (a) a remotely placed water storage tank connected to at least one plant tray with a piping system;
- (b) the piping system having a delivery pipe to deliver and remove water from the plant tray;
- (c) the storage tank having an outflow line connected to a centrifugal pump;
- (d) centrifugal pump being adapted to move the water into the main delivery assembly;
- (e) an interconnection between the main delivery assembly and the main drain assembly, allowing water to flow from the main delivery assembly into the venturi vacuum;
- (f) a check valve on the main delivery ascending pipe to prevent water from backflowing from the delivery pipes into the storage tank;
- (g) at least one tee line in the main delivery assembly that feed water to the tray delivery assembly for delivery to each plant tray;
- (h) a solenoid valve in the tray delivery assembly which can be remotely controlled to initiate and terminate the supply of water to the plant tray;
- (i) the solenoid valve in the tray delivery assembly being



Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

connected to a timer to allow for timed operation of the initiation and termination of the supply of water to the plant tray;

- (j) the use of a Venturi Vacuum to remove water from the plant tray through the tray drain assembly and the main drain assembly and into the storage tank;
- (k) a vacuum shutoff valve acting under positive pressure from the centrifugal pump to allow water to flow on to the plant tray and acting under vacuum from the venturi vacuum to remove water from the plant tray;
- (l) a check valve on the tray drain pipe preventing backflow of water from the main drain pipe into the tray drain assembly;
- (o) an input line from the main drain line into the water storage tank;
- (p) a timed control of the flow and removal of water from the plant table utilizing the timers hooked to the solenoid valves;
- (q) a tray drain assembly that can be easily disconnected from the main drain assembly and readily disassembled and reassembled;
- (s) a tray delivery assembly that can be easily disconnected from the main delivery assembly and easily disassembled

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

and reassembled; and

- (t) a main delivery assembly that can be easily disassembled and reassembled.

Appl. No. 10/720,919  
Amdt. dated February 22, 2008  
Reply to Office action of January 23, 2008

Claim 20 (withdrawn). A method for providing irrigation to at least one nursery of nursery plants comprising:

- (a) providing a remotely placed water storage tank connected to at least one plant tray with a piping system;
- (b) passing water through a delivery pipe in the piping system to deliver or remove water from the plant tray;
- (c) providing an outflow line for the storage tank, the outflow line being connected to a centrifugal pump;
- (d) moving the water with the centrifugal pump into the main delivery assembly;
- (e) connecting the main delivery assembly and the main drain assembly in order to allow a water flow from the drain pipe into the delivery pipe;
- (f) preventing backflow from the delivery pipes into the storage tank as desired;
- (g) providing a tee line to the tray delivery assembly for delivery of water to each plant tray from below the plant tray;
- (h) remotely controlling the tray delivery assembly with a solenoid valve to initiate or to terminate the supply of water to the plant tray;
- (i) timing the solenoid valve in the tray delivery assembly allow for timed operation of the initiation and

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

- termination of the supply of water to the plant tray;
- (j) removing water from the plant tray through the tray drain assembly and the main drain assembly and into the storage tank with venturi vacuum;
  - (k) applying a vacuum shutoff valve acting under positive pressure from the centrifugal pump to allow water to flow on to the plant tray and acting under vacuum from the venturi vacuum to remove water from the plant tray;
  - (l) providing a check valve on the tray drain pipe to prevent backflow of water from the main drain pipe into the tray drain assembly;
  - (o) providing an input line from the main drain line into the water storage tank;
  - (p) timing the solenoid valves to control the flow and removal of water from the plant table;
  - (q) providing a simplified connecting device for the tray drain assembly that can be easily disconnected from the main drain assembly and readily disassembled and reassembled;
  - (s) providing the a tray delivery assembly that can be easily disconnected from the main delivery assembly and easily disassembled and reassembled; and
  - (t) providing a main delivery assembly that can be easily

Appl. No. 10/720,919  
Amdt. dated February 22, 2008  
Reply to Office action of January 23, 2008  
disassembled and reassembled.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 21 (New).A nursery irrigating system adapted to feed water to at least one root ball of at least one plant in at least one plant tray comprising:

a remotely placed water storage tank connected to at least one plant tray with an overhead pipe system;

the overhead pipe system having a main delivery pipe to deliver and remove water from the at least one plant tray;

the nursery irrigating system being easily disassembled and reconfigured;

a controller allowing for an unattended operation of the overhead pipe system;

the remotely placed water storage tank having the delivery pipe connected to a centrifugal pump; and

the centrifugal pump providing force to move water into the overhead pipe system;

a venturi vacuum pump to remove water also connected to the main delivery pipe;

the overhead pipe system having an ascending pipe connected between the main delivery pipe and the venturi vacuum pump;

the ascending pipe being connected between the main delivery pipe and the centrifugal pump;

the main delivery pipe being connected to a tray

Appl. No. 10/720,919  
Amdt. dated February 22, 2008  
Reply to Office action of January 23, 2008

delivery assembly;

the tray delivery system feeding a supply of water through the main delivery pipe to the at least one plant tray at the root ball of at the least one plant contained in the at least one plant tray from below the at least one plant; and

the tray delivery system removing the supply of water from the at least one plant tray through the main delivery pipe.

Claim 22 (New). The nursery irrigation system of Claim 21 further comprising a check valve mounted on the ascending pipe to prevent water from backflowing from the overhead pipe system into the storage tank.

Claim 23 (New). The nursery irrigation system of Claim 22 further comprising at least one tee line in the main delivery pipe that feed water to the tray delivery assembly in order to furnish water to each of the at least one plant in a plant tray.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 24 (New). The nursery irrigation system of Claim 23 further comprising a solenoid valve for the controller in the tray delivery assembly which can be remotely controlled and in order to initiate or terminate the supply of water to the plant tray.



Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 25 (New). The nursery irrigation system of Claim 24 further comprising:

the solenoid valve being connected to the tray delivery assembly;

the controller including the solenoid valve attached to a timer in order to allow for timed operation of the initiation and termination of the supply of water to the plant tray;

the controller providing timed control of the flow to and removal of water to the plant table;

the venturi vacuum pump removing water from the plant tray;

the tray delivery assembly including a tray drain assembly connected to a main drain assembly and into the storage tank;

the main drain assembly being connected to the main delivery pipe; and

the venturi vacuum pump sending water through the tray drain assembly into the main drain assembly on a return to the storage tank.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

Claim 26 (New). The nursery irrigation system of Claim 9 further comprising:

a vacuum shut off valve cooperating with the centrifugal pump to allow water to flow on to the plant tray at the root ball and cooperating with the venturi vacuum pump to allow water to flow from the plant tray;

a check valve in the main delivery pipe preventing a backflow of water from the main drain pipe into the tray drain assembly;

an input line connecting the main drain line to the water storage tank;

the controller having up to 60 timers each of the up to 60 timers being connected to a separate member in a group of the solenoid valve to have timed control of the flow and removal of water from the plant table;

the tray drain assembly being easily disconnected from the main drain assembly and readily disassembled and reassembled;

the tray delivery assembly being easily disconnected from the main delivery assembly and easily disassembled and reassembled; and

the main delivery assembly being easily disassembled and reassembled.

Appl. No. 10/720,919

Amdt. dated February 22, 2008

Reply to Office action of January 23, 2008

#### FEE STATEMENT

No additional fee is due because the number and type of currently amended claims are the same as the number and type of originally presented claims. Nevertheless, an appropriate authorization to charge or credit the deposit account of applicant's attorney is enclosed in the required duplicate original form -- to be used if necessary.

#### ACKNOWLEDGMENT OF INTERVIEW

Applicant gratefully acknowledges the telephone interviews granted to his attorney by Examiner Francis T. Palo on January 29, 2008, and February 21, 2008. During that interview, adjustment of the claims citation and comments on the claims were discussed. It was further suggested that the mounting of the tables require careful consideration.

During the interview on February 21, the reference of Midwest Gromaster, Inc. (www.midgro.com) 2002. (hereafter "Midwest") was alleged to show a single pipe service for the irrigation table, but it clearly discusses both a drain line and a feed line.

It is hoped that this amendment complies with the spirit and letter of those interviews.

#### DRAWING AMENDMENT

No corrected drawing is required, because the numbering in the specification has been corrected. This meets the drawing objection.